

**EPA Superfund
Record of Decision Amendment:**

**NEW LYME LANDFILL
EPA ID: OHD980794614
OU 01
NEW LYME, OH
11/16/1999**

RECORD OF DECISION AMENDMENT

FOR

NEWLYME LANDFILL

**1440 Dodgeville Road
New Lyme, Ohio 44066
Ashtabula County**

**Federal Site Identification Number
OHD 980 794 614**

RECORD OF DECISION AMENDMENT

New Lyme Landfill

New Lyme, Ohio

New Lyme Landfill

Site Location

New Lyme, Ashtabula County, Ohio

U.S. Environmental Protection Agency

Ohio Environmental Protection Agency

Statement of Basis and Purpose

This plan amends the September 27, 1985, Record of Decision (ROD) for the New Lyme Landfill Superfund Site in New Lyme, Ohio. This document presents the amended plan for the New Lyme Landfill Superfund Site, and was developed in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Specifically, this document has been prepared in compliance with CERCLA Section 117 and NCP Section 300.43 5(c)(2)(ii). This document explains the factual and legal basis for selecting the amended plan for this site.

In accordance with NCP Section 300.825(a)(2), the information supporting this amended plan is contained in the administrative record for this site. The administrative record can be reviewed at the Henderson Memorial Public Library, 54 East Jefferson Street, Jefferson, Ohio (ask for Laurelee Hiunger, reference librarian) or at the U.S. EPA Records Center, 77 West Jackson, Chicago, Illinois, and is available for viewing on business days from 8:30 AM to 4:30 PM.

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the plan selected in this ROD Amendment, may present an imminent and substantial endangerment to public health, welfare, or the environment.

The selected plan, including any needed contingency measures, amends the final remedy for the site. The purpose of this amended plan is to discontinue that part of the 1985 ROD requiring pumping and on-site treatment of contaminated ground water and, instead, to monitor and assess ground water at the site to assure that contaminated ground water does not migrate off-site.

The original plan, as described in the September 27, 1985, ROD, included the following components:

- Installation of a multi-layer protective cap over the landfill
- Installation and indefinite operation of extraction/containment wells around the perimeter of the landfill to de-water the landfill and eliminate leachate production
- On-site treatment of contaminated ground water and leachate using biological technology and granulated activated carbon until leachate was no longer produced and treatment became unnecessary (after about 15 years)
- On-site consolidation of contaminated sediment
- Gas control, fence, ground water monitoring
- Operation and maintenance of the remedy

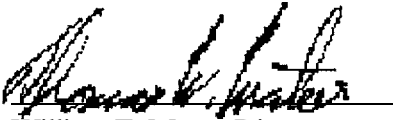
The amended site plan includes the following components:

- shutdown of the on-site ground water treatment facility
- long-term ground water monitoring program
- contingency plan(s)
- continued operation and maintenance of the installed cap, including leachate control if necessary, and continued site security

Declaration of Statutory Determinations

The selected plan is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost effective. This plan uses engineering controls such as ground water monitoring to assess contaminant mobility, toxicity, volume, and to assess the need for a contingency action. In the event of the need for contingency action implementation, the contingency action may include permanent solutions, or alternative treatment, to the maximum extent practicable, and satisfy the preference for treatment as a principal element.

Because this remedy will result in hazardous substances remaining on-site above the health-based levels, reviews will continue to be conducted every five years from date the Preliminary Close-out Report was signed by the U.S. EPA (December 31, 1992), to ensure that the remedy continues to provide adequate protection of human health and the environment.

for 
William E. Muno, Director
Superfund Division

16 Nov 97
Date

***DECISION SUMMARY
FOR
RECORD OF DECISION AMENDMENT
FOR NEWLYME LANDFILL
NEWLYME, OHIO***

I. INTRODUCTION

New Lyme Landfill is located at 1440 Dodgeville Road in New Lyme, Ohio, (Ashtabula County). The landfill is mostly surrounded by a wooded, marshy area near Lebanon Creek. Surface drainage from the site can be divided into four sub-watersheds. The northern portion of the site drains directly in Lebanon Creek. The remainder of the site drains southward to an unnamed tributary of Lebanon Creek. Lebanon Creek drains into Rock Creek, upstream of Lake Roaming Rock, a public water supply.

Bedrock at the site consists of the Ohio Shale Formation, gray siliceous shale, to depths in excess of 2,200 feet. The surface of the bedrock is weathered and fractured. The weathered zone was found to extend a minimum of 10 feet below the rock surface. Bedrock is overlain by glacial till, and ranges in composition from clayey silt to silty clay to sandy clay, and contains small quantities of pebbles. The total thickness of the till ranges from approximately 20 to 35 feet. Ground water measurement data in the bedrock indicate that ground water flows east to west beneath the site. The geologic conditions and the water level data indicate that both the shale and the coarse grained lenses within the till are under confined or semi-confined conditions. In several bedrock wells, water levels rise above the ground surface. The till appears to act as an aquitard at the site. Some ground water flow occurs along fractures in the till. Coupled with the artesian conditions found generally across the site, and the upward vertical gradients found in the west and northeast, the fractures allow ground water to discharge to the surface in this general area. Constant discharges at major leachate seeps over a wide range of climatic conditions indicate that the source of water for leachate formation may be related to both ground water flow and surface infiltration, depending on the elevation of the seep in question.

II. SITE HISTORY

The New Lyme Landfill began operations in 1969. During its operation, the landfill received household, industrial, commercial, and institutional wastes. The wastes deposited at the landfill may have included cyanide sludge, coal tar distillates, asbestos, resins, paint sludge, oils, lacquer thinners, peroxide, corrosive liquids, acetone, xylene, toluene, kerosene, naphtha, benzene, linseed oil, mineral oil, fuel oil, chlorinated solvents, and laboratory chemicals. Remedial investigations conducted during 1983 and 1984 indicated that various media including the soil, ground water, sediment, and leachate were contaminated. Contamination consisted of, among other things, volatile organic compounds, phenolic compounds, tetrachloroethane, chloroform, asbestos, and heavy metals.

On September 27, 1985, U.S. EPA signed a Record of Decision (ROD) selecting a remedial action plan for the cleanup at the site. The ROD required the following:

- ! Installation of a multi-layer protective cap over the landfill.
- ! Extraction/containment wells around the perimeter of the landfill to de-water the landfill and eliminate leachate production. (The wells to operate indefinitely to maintain effectiveness of the remedy.)
- ! Onsite treatment of contaminated ground water and leachate using biological disc, sodium hydroxide precipitation, and granular activated carbon until leachate is no longer produced and treatment becomes unnecessary (after about 15 years).
- ! Onsite consolidation of contaminated sediment.
- ! Gas control, fence, ground water monitoring.
- ! Operation and maintenance of the remedy.

Reasons for Amending the 1985 ROD

The remedial action plan selected in the 1985 ROD was designed to treat contaminated ground water, to prevent precipitation and ground water from entering the landfill, as well as to minimize the potential for people or animals to come into direct contact with contaminants.

In March 1998, U.S. EPA and Ohio EPA evaluated how protective the original plan was to human health and the environment. The results of this evaluation are included in the New Lyme Landfill, Five Year Review Report. In addition to the Five Year Review Report, potentially responsible parties linked to the site performed certain ground water investigations and issued a Hydrogeological Report in December 1996 and a subsequent Remedial Alternatives Report in January 1997. U.S. EPA and Ohio EPA also conducted a focused feasibility study for the site in September 1998. The Five Year Review Report showed that the installation of the multilayer cap over the landfill together with the current ground water pump and treat system, as a containment remedy, was protective of human health and the environment. The original remedial action has lowered the water table but has not de-watered the landfill. Additionally, with few exceptions, the ground water extracted from beneath the landfill showed no sign of contamination above the regulatory limits. Therefore, based on current information, U.S. EPA and Ohio EPA have determined that measures other than those specified in the ROD which are discussed below could provide the same level of protectiveness in a more cost-effective manner. U.S. EPA and Ohio EPA have determined that these changes to the original ROD are appropriate and protective of human health and the environment.

III. ROD AMENDMENT COMPONENTS

The amended plan involves the discontinuation of the onsite treatment of ground water and leachate. This would be accomplished through the complete shutdown of the current extraction system, extraction wells, and the ground water treatment plant.

To adequately assess ground water as it enters and exits the site, a long term ground water monitoring program will be implemented. Initially, a portion of the existing wells, including an off site background well, will be sampled on a quarterly basis for two years. Four additional well clusters, (or groupings), (6, 9, 11 & 12) also will be monitored on a semi-annual basis over the two-year period with the subsequent years' monitoring requirement to be determined. Water-level data will be collected from all wells during each sampling event. The collected information is expected to allow for the detection and assessment of any ground water contamination at the site. This monitoring should also provide up gradient (background) ground water information and indications of any seasonal change in any ground water flow directions. Annual sampling of six residential wells will also be included as part of the monitoring plan. (Figure 1 contains the monitoring well network for this amended plan.)

The amended plan will also include a general contingency plan. Information obtained from the implementation of the monitoring plan will be used to determine whether contingency measures need to be implemented. The need for the implementation of contingency measures will be based on whether or not Federal and/or State standards are exceeded.

Specifically, the trigger for contingency plan implementation includes all Maximum Contaminant Levels (MCLs). If no MCL is listed for a contaminant, the trigger will be based on a 1×10^{-5} cumulative risk level. If during a sampling event; a contaminant is detected at or above the trigger level, then confirmatory sampling will be conducted as soon thereafter as practical. If the MCL or cumulative risk level is once again detected, then the contingency plan will be implemented. The contingency plan will be approved by U.S. EPA and Ohio EPA and will include details on methods to define, among other things, the rate, concentration, and extent of the release. It will also propose actions to be taken that will protect human health and the environment. The contingency measures may include but are not limited to the installation of additional monitoring wells, extraction wells with or without treatment, and/or expanded sampling.

The analytical parameters to be included in the New Lyme Landfill monitoring well and residential well sampling activities are provided in Tables 1 and 2 below.

Table 1. Monitoring Well Analytical Parameters

VOCs	Cobalt, Copper
Semi-VOCs	PCBs, pesticides, herbicides
Nitrogen, Ammonia (as N)	Cyanide
Chloride, Cl	Lead
Sodium	Iron
COD	Manganese
Total Dissolved Solids	Mercury
Nitrate-Nitrite N	Nickel
Sulfate, SO_4	Selenium
Turbidity	Silver
Antimony	Thallium
Arsenic	Vanadium
Barium	Zinc
Beryllium	Temperature (Field Measurement)
Cadmium	pH (Field Measurement)
Chromium	Specific Conductance (Field Measurement)

Table 2. Residual Well Analytical Parameters

VOCs	Total Dissolved Solids
Nitrogen, Ammonia (as N)	Nitrate - Nitrite N
Sodium	Sulfate, SO_4
COD	Turbidity
Chloride, Cl	Iron
Manganese	

The ROD Amendment includes continued operation and maintenance of the installed cap including leachate control if necessary, and continued site security.

V. COMPARATIVE ANALYSIS

The amended plan addresses threats to the public health, safety, welfare and the environment presented by the site. This section compares the performance of the amended plan and the original plan selected in the September 27, 1985, ROD.

Evaluating the Alternatives

U.S. EPA used the following nine criteria to evaluate the original and amended plans. The

Evaluation Table shown as Table 3, compares the two alternatives using these criteria.

1. Overall protection of human health and the environment determines whether a plan eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

- ! The original plan is considered protective of human health and the environment. The amended plan is considered protective of human health and the environment. Under the amended plan, the monitoring well network would detect any migration of contamination outside of the waste boundary. If trigger levels are exceeded, then a contingency system shall be implemented to effectively and efficiently control the contamination.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether the plan meets federal and state environmental statutes, regulations, and other requirements that pertain to the site or whether a waiver is justified.

- ! The original plan complied with all ARARs. The amended plan will comply with all ARARs.

3. Long-Term Effectiveness and Permanence considers the ability of a plan to maintain protection of human health and the environment over time and the reliability of such protection.

- ! The original plan offers long-term effectiveness by decreasing the magnitude of residual risk. The amended plan also offers long-term benefits. With the ground water system under natural conditions and the monitoring well network in place, any migration of contamination outside of the waste boundary should be detected. If trigger levels are exceeded, then a contingency system shall be implemented to effectively and efficiently control the contamination. Historically, contamination has not been detected above trigger levels in the current extraction well system or monitoring well network surrounding the landfill.

4. *Reduction of Contaminant Toxicity, Mobility, or Volume Through Treatment* evaluates a plan's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

- ! Although the waste remains in place, both the amended plan and the original plan could reduce toxicity, mobility, or volume of contaminants. The original plan in conjunction with the cap and ground water extraction system could reduce the toxicity, mobility, or volume of the contaminants. Likewise, the amended plan in conjunction with the original cap and applicable contingency measures, as needed, could potentially reduce the toxicity, mobility, or volume of the contaminants.

5. *Short V-Term Effectiveness* considers the length of time needed to implement a plan and the risks the plan poses to workers, residents, and the environment during implementation.

- ! Short-term effectiveness could be achieved by both plans. The amended plan could be implemented within two to three months while creating little or no danger to workers or the community. Implementation of the amended plan would immediately provide the U.S. EPA and Ohio EPA valuable information on the true hydraulic character of the site from ground water gradient data collected under natural flow conditions.

6. *Implementability* considers the technical and administrative feasibility of implementing the plan, such as relative availability of goods and services.

- ! Construction of the original plan is complete. The amended plan is technically feasible and can be implemented expeditiously.

7. *Cost* includes estimated capital and operation and maintenance (O&M) costs, as well as present worth costs. Present worth cost is the total costs of a plan over time in terms of today's dollars.

- ! The estimated present worth cost for the amended plan activities for five years ranges between \$550,000 and \$800,000, excluding additional cost for contingency plan implementation. Capital cost for the amended plan ranges from \$100,000 to \$200,000. The estimated annual O&M cost for the amended plan ranges from \$90,000 to \$120,000. O&M cost for the amended plan for five years is \$450,000 to 600,000.
- ! The ROD estimated the capital cost for the original plan at \$10,798,000. The actual capital cost of the remedy as constructed exceeded the estimated cost identified in the ROD. The original plan O&M cost ranged from \$300,000 to \$600,000 per year. The O&M cost for the original plan activities for five years was \$1,500,000 to \$3,000,000.

8. ***State Acceptance*** considers whether the State agrees with U.S. EPA's analysis and recommendation for a change in the 1985 plan decision.

! The State of Ohio concurs in the amended plan.

9. ***Community Acceptance*** considers whether the local community agrees with U.S. EPA's analyses and preferred alternative.

! One public comment was received concerning the amended plan. That comment supported the amended plan. (Refer to Responsiveness Summary for more details.

Table 3. EVALUATION TABLE

<i>Evaluation Criteria</i>	<i>Amended Plan</i>	<i>Original Plan</i>
Overall Protection of Human Health and the Environment	yes	yes
Compliance with ARARs	yes	yes
Long-Term Effectiveness and Permanence	yes	yes
Reduction of Toxicity, Mobility, or Volume Through Treatment	yes (in conjunction with the original cap and with the contingency.)	yes (in conjunction with the cap and the ground water extraction system.)
Short-Term Effectiveness	yes	yes
Implementability	yes	yes
Cost (Present Worth)	\$1.3 million (refer to paragraph 7 above)	\$10.7 million (refer to paragraph 7 above)
Support Agency Acceptance	yes	yes
Community Acceptance	yes	yes

ARARs Identified for the Amended Plan:

The following ARARs are identified for the amended plan:

- ! ***Ohio Revised (ORC) Chapter 6111 Water Pollution Control:***
 Section 6111.04 prohibits pollution to waters (including ground water) of the State of Ohio;
 Section 6111.04.2 requires compliance with National Effluent Standards;
 Section 6111.04.3 requires permits or the discharge of wastes into wells;

Section 6111.07 prohibits violations of any rule or permit in regards to water pollution.

! ORC Chapter 3734 Solid and Hazardous Waste

Section 3734.02(H) prohibits digging, etc., into or on any land where a hazardous or solid waste facility is located without prior authorization of the Director of Ohio EPA; Section 3734.11 prohibits anyone from violating any section of this chapter or any rule associated with Section.

! ORC Chapter 3767 Nuisances

Section 3767.13, Section 3767.14, Section 3767.17, Section 3767.18, and Section 3767.32 prohibit nuisances regarding wells, refuse, and waters.

! Ohio Administrative Code (OAC) 3745-27-13

This rule provides the means to grant authorization to engage in obtrusive actions in land where a hazardous or solid waste facility was operated.

! OAC 3745-9-10 Abandonment of Test Holes and Wells

All wells not in use must be properly abandoned.

All other ARARs relevant to the New Lyme Landfill, and identified in the 1985 ROD, will remain in effect. In addition, other ARARs may apply if warranted by the implementation of certain contingency measures.

Summary of Support Agency Comments on the ROD Amendment

The State of Ohio concurs with the amended plan.

Statutory Determinations

In accordance with CERCLA Section 121, the amended plan satisfies the following requirements:

- !** Protection of Human Health and the Environment
- !** Compliance with ARARs
- !** Cost Effectiveness
- !** Utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable; and
- !** Satisfies the preference for treatment as a principal element or provide an explanation as to why this preference is not satisfied.

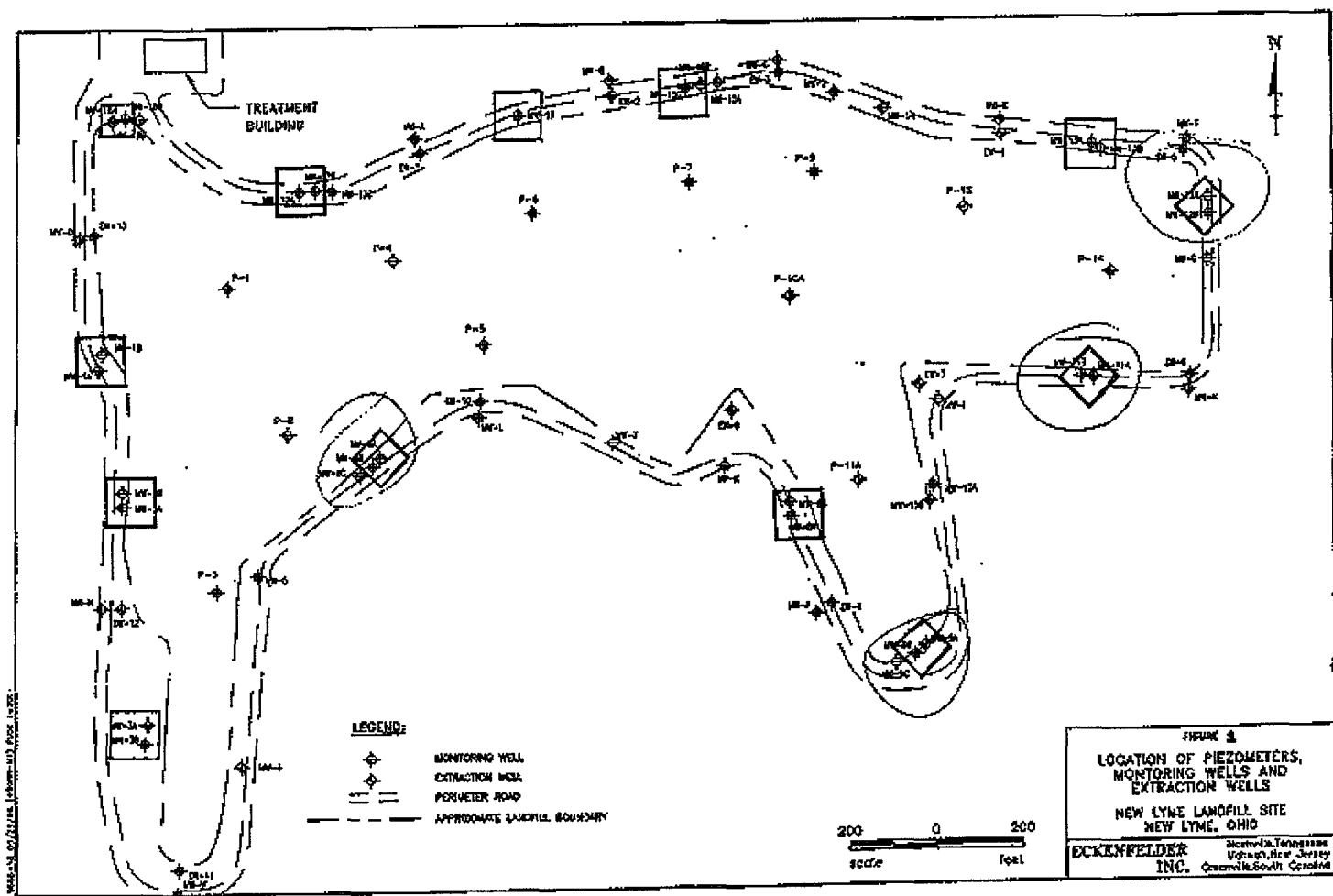
Because this remedy will result in hazardous substances remaining on-site above the health-based levels, reviews will continue to be conducted every five years from date the Preliminary Close-out Report was signed by the U.S. EPA (December 31, 1992), to ensure that the remedy continues to provide adequate protection of human health and the environment.

In **compliance with Section 117** of CERCLA, and the NCP Section 300.43 5(cX2Xii), the Proposed Plan highlighting the amended plan was published Notice was issued, and a public comment period commenced on June 21, 1999, and closed on July 21, 1999. In the Proposed Plan, the U.S. EPA offered to hold a public meeting to explain the ROD Amendment. U.S. EPA received no indication that there was any public interest in a public meeting. Hence, a public meeting was not conducted.

Since the original ROD was signed, public interest in the New Lyme Landfill site has been minimal. During the 30-day public comment period, U.S. EPA received comments from one potentially responsible party linked to the site. These comments are documented in the Responsiveness Summary but generated no significant changes to the amended plan.

RESPONSIVENESS SUMMARY

The Responsiveness summary has been prepared to meet the requirements of Sections 113(kX2)(BXiv) and 117(b) of CERCLA, which requires the U.S. EPA “to respond to each of the significant comments, criticisms, and new data submitted in written or oral presentations” on a proposed plan for remedial action. The Responsiveness Summary addresses concerns expressed by the public and potentially responsible parties (PRPs) in the written and oral comments received by the U.S. EPA and the State regarding the proposed remedy for the New Lyme Landfill site. The Responsiveness summary is attached as Appendix 1.



APPENDIX 1

The Responsiveness summary has been prepared to meet the requirements of Sections 113(k)(4)(B)(iv) and 117(b) of CERCLA, which requires the U.S. EPA to respond “to each of the significant comments, criticisms, and new data submitted in written or oral presentations” on a proposed plan for remedial action. The Responsiveness Summary addresses concerns expressed by the public and potentially responsible parties (PRPs) in the written and oral comments received by the U.S. EPA and the State regarding the proposed remedy for the New Lyme Landfill site.

Comments from General Electric Company, a PRP, dated July 20, 1999, were received on July 21, 1999. General Electric Company supports the Proposed Plan and the proposed ROD Amendment for the New Lyme Landfill but stated its reservations about statements contained in the Focused Feasibility Study and the Proposed Plan. (Refer to the Administrative Record for these comments in their entirety.)

Response: The comments submitted by the PRP stated that there were problems with the original remedy, expressed concerns about certain assumptions in the proposed ROD amendment and stated that the focused feasibility study contains inaccurate and unreliable assumptions. The U.S. EPA and Ohio EPA disagree with various comments submitted by the PRP. However, since the comments overall support the amended plan and the ROD Amendment, U.S. EPA believes that no specific response is necessary. U.S. EPA notes the comments and information provided by the commentor.

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAL ACTION

ADMINISTRATIVE RECORD
FOR
NEW LYME LANDFILL SUPERFUND SITE
ASHTABULA, OHIO

UPDATE #3
OCTOBER 21, 1999

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
	106/13/86	CH2M Hill	U.S. EPA	Predesign Report/Agency Review Draft for the New Lyme Landfill Site	66
2	07/28/86	U.S. EPA	File	Predesign Report/Public Comment for the New Lyme Landfill Site	40
3	07/00/87	U.S. Army Corps of Engineers/ Omaha District	File	Treatability Testing and Field Investigation Report for the New Lyme Landfill Site	389
4	07/16/92	Ohio EPA	File	Inter-Office Communication re: Evaluation of Ground water Monitoring Extraction Systems	2
5	12/00/96	Eckenfelder, Inc.	U.S. EPA	Five Year Remedy Review Investigation: Hydro-geologic Report for the New Lyme Landfill Site	192
6	02/00/97	Eckenfelder, Inc.	U.S. EPA	Five Year Remedy Review: Remedial Alternatives Analysis for the New Lyme Landfill Site	128
7	01/00/98	Ohio EPA	U.S. EPA	Five Year Review Report for the New Lyme Landfill Site w/ Cover Letter	315
8	09/25/98	Lawton & Associates, Inc.	U.S. EPA/ Ohio EPA	Focused Feasibility Study for the New Lyme Landfill Site	54
9	05/00/99	U.S. EPA	Public	Proposed Plan for the New Lyme Landfill Site	8

New Lyme Landfill AR
Update

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
10	07/20/99	McMahon, M., McMahon, DeGulis, Hoffman & Blumenthal, L.L.P.	Pastor, S., U.S. EPA	Letter: General Electric Company's Comments on the Proposed Amendment to the Record of Decision for the New Lyme Landfill Site w/ Attached Exhibits A-D	126
11	00/00/00	U.S. EPA	Public	Responsiveness Summary for the New Lyme Landfill Site (PENDING)	
12	00/00/00	U.S. EPA	Public	Record of Decision Amend- ment for the New Lyme Landfill Site (PENDING)	